

What is claimed is:

1 1. A liquid crystal display module, comprising:
2 a frame having a receiving portion and a groove
3 adjacent thereto;
4 a light guide plate disposed in the receiving
5 portion;
6 a diffuser disposed on the light guide plate;
7 at least one prism disposed on the diffuser;
8 an LCD panel disposed on the prism;
9 a first power and signal circuit board connected to
10 the LCD panel and having a first optical layer
11 covering the groove of the frame;
12 a second power and signal circuit board disposed in
13 the groove of the frame;
14 a light emitting element disposed on the second
15 power and signal circuit board and in the
16 groove of the frame; and
17 a reflector disposed under the frame.

1 2. The liquid crystal display module as claimed in
2 claim 1, further comprising a second optical layer formed
3 on the second power and signal circuit board.

1 3. The liquid crystal display module as claimed in
2 claim 1, wherein the first optical layer is composed of a
3 reflective material.

1 4. The liquid crystal display module as claimed in
2 claim 1, wherein the first optical layer is composed of a
3 light-absorptive material.

1 5. The liquid crystal display module as claimed in
2 claim 2, wherein the second optical layer is composed of
3 a reflective material.

1 6. The liquid crystal display module as claimed in
2 claim 2, wherein the second optical layer is composed of
3 a light-absorptive material.

1 7. The liquid crystal display module as claimed in
2 claim 1, wherein the light emitting element is a light
3 emitting diode (LED).

1 8. The liquid crystal display module as claimed in
2 claim 1, wherein the first power and signal circuit board
3 is a flexible circuit board.

1 9. The liquid crystal display module as claimed in
2 claim 1, wherein the second power and signal circuit
3 board is a flexible circuit board.

1 10. A liquid crystal display module, comprising:
2 a frame having a receiving portion and a through
3 groove adjacent thereto;
4 a light guide plate disposed in the receiving
5 portion;
6 a diffuser disposed on the light guide plate;
7 at least one prism disposed on the diffuser;
8 an LCD panel disposed on the prism;
9 a power and signal circuit board connected to the
10 LCD panel and having an optical layer and a
11 shading layer, the power and signal circuit
12 board surrounding the through groove of the

13 frame and extending to the lower surface of the
14 frame from the upper surface thereof, the
15 optical layer opposite to the shading layer and
16 covering the through groove, and the shading
17 layer disposed in the through groove;

18 a light emitting element disposed on the shading
19 layer and electrically connected to the power
20 and signal circuit board, the light emitting
21 element and shading layer disposed in the
22 through groove of the frame; and

23 a reflector disposed under the receiving portion of
24 the frame.

1 11. The liquid crystal display module as claimed in
2 claim 10, wherein the optical layer is composed of a
3 reflective material.

1 12. The liquid crystal display module as claimed in
2 claim 10, wherein the optical layer is composed of a
3 light-absorptive material.

1 13. The liquid crystal display module as claimed in
2 claim 10, wherein the shading layer is composed of a
3 reflective material.

1 14. The liquid crystal display module as claimed in
2 claim 10, wherein the shading layer is composed of a
3 light-absorptive material.

1 15. The liquid crystal display module as claimed in
2 claim 10, wherein the light emitting element is a light
3 emitting diode (LED).

1 16. The liquid crystal display module as claimed in
2 claim 10, wherein the power and signal circuit board is a
3 flexible circuit board.

1 17. The liquid crystal display module as claimed in
2 claim 10, wherein the bottom of the frame further
3 comprises a recess and the power and signal circuit board
4 further comprises a tape adhered thereto.
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